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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/588,013	08/01/2006	Wolfgang Voss	SCHULTE	1385
James C Wray Suite 300 1493 Chain Bridge Road McLean, VA 22101				
7590 03/05/2009			EXAMINER MCALISTER, WILLIAM M	
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/588,013

Applicant(s)

VOSS, WOLFGANG

Examiner

WILLIAM MCCALISTER

Art Unit

3753

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 8/1/2006 (preliminary amendment).
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-14 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-14 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 01 August 2006 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date 11/24/2006
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Drawings

1. The drawings are objected to because in Figure 1 the incorrect element is indicated as both the "movable closure device 8" and the "spring disk 7".
2. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(4) because reference characters "15", "16" and "17" have been used to designate the same element.
3. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the salient of claim 7 must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an

application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 112

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. Claims 1, 4, 5 and 10 recite the limitation "the flow gap". There is insufficient antecedent basis for this limitation in the claim.
6. Claim 4 recites the limitation "the connection bore". There is insufficient antecedent basis for this limitation in the claim.
7. Claim 6 recites the limitations "the inflow area" and "the groove base"". There is insufficient antecedent basis for these limitations in the claim.
8. Claim 7 recites the limitation "the groove base". There is insufficient antecedent basis for this limitation in the claim.
9. Claim 8 recites the limitations "the groove wall" and "the beveled portion". There is insufficient antecedent basis for these limitations in the claim.
10. Claim 9 recites the limitation "the partition". There is insufficient antecedent basis for this limitation in the claim.

11. Claim 10 recites the limitations "the connection", "the connection nipple", "the outlet ports" and "the pressurized fluid outlets". There is insufficient antecedent basis for these limitations in the claim.
12. Claim 11 recites the limitation "the corner", "the connection nipple" and "the attachment". There is insufficient antecedent basis for these limitations in the claim.
13. Claim 12 recites the limitation "the edge" and "the top hat brim". There is insufficient antecedent basis for these limitations in the claim.
14. Claim 14 recites the limitation "the plastic seal ring", "the contact surface" and "the piston-like attachment". There is insufficient antecedent basis for these limitations in the claim.
15. Applicant's assistance in identifying and correcting other latent problems of antecedent basis is encouraged and appreciated.
16. Regarding claims 2, 4 and 13, the phrase "preferably" renders the claims indefinite because it is unclear whether the limitations following the phrase are part of the claimed invention. See MPEP § 2173.05(d).
17. Claim 10 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Is the top-hat shaped top part different from the closure device required of claim 1? Also, what is the difference between the pressurized fluid outlets and the outlet ports?
18. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the

art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

19. Claim 8 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. There is nothing in the disclosure that would enable one of ordinary skill in the art provide radial fixation. Moreover, as shown by, and discussed with respect to Figures 3- 5, provision for radial movement of the seal is necessary to Applicant's invention.

Claim Rejections - 35 USC § 102

20. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

21. Claims 1 and 10 are rejected under 35 U.S.C. 102(b) as being anticipated by de Launay (US 4,176,680).

de Launay discloses a pressure limiting valve comprising:

a valve housing (12, 66) with consumer connection (14) and pressurized fluid outlet (22), which

are separated from one other by means of a movable closure device (44) with a seal (56) securing the flow gap between the pressurized fluid outlet (22) and the consumer connection (14), which closure device (44) is movable against the force of a valve spring (64), and

are connected to one another if an overload occurs in order to discharge the pressurized fluid (the relief function),

characterized in that the seal (56) is a seal ring with limited flexibility, which can be (i.e. – is capable of being) placed without prestress, and consequently displaceably in the direction of the closure device, into a groove provided for this purpose, the groove being configured so as to allow total or partial flow of pressurized fluid behind the seal ring (under this interpretation, the claim language directed to the groove functions only to further define the capability of the seal, and therefore does not recite structure that is required of the claim).

Regarding claim 10 as best understood, de Launay discloses the consumer connection (14) to have a piston-type attachment (30, which although unconventional, appears to be consistent with Applicant's use of the phrase "piston-type"), on which a top hat shaped top part (44) with a spring disk / top hat brim are arranged movably passing over the radial bores (36) in the attachment (30) against the force of the valve spring (64), the flow gap between the bottom side of the top hat brim and the top side of the

connection nipple (the radial flange of element 30) being configured so as to extend up to the outlet ports representing pressurized fluid outlets.

Claim Rejections - 35 USC § 103

22. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

23. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

24. Claims 1-6, 8 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Schultz (US 3,344,806) in view of Dams (EP 0096303).

Regarding claim 1, Schultz discloses a pressure limiting valve comprising:

a valve housing (13) with consumer connection (12) and pressurized fluid outlet (17), which

are separated from one other by means of a movable closure device (22) securing the flow gap between the pressurized fluid outlet (17) and the consumer

connection (20), which closure device (22) is movable against the force of a valve spring (28), and

are connected to one another if an overload occurs in order to discharge the pressurized fluid (during the pressure relief function),

Shultz does not disclose the seal ring and groove as required of the claim. Dams teaches that it was known in the art of fluid pressure relief valves at the time of invention to utilize a seal ring (8) with limited flexibility, which can be placed without prestress, and consequently displaceably in the direction of a similar closure device (2), into a groove (7) provided for this purpose, the groove (7) being configured so as to allow total or partial flow of pressurized fluid behind the seal ring (see FIG 3, "behind the seal ring" has been interpreted to mean with respect to surface 7"). To prevent leaks, it would have been obvious to one of ordinary skill in the art at the time of invention to supplement Shultz' closure device with a groove and seal ring, as taught by Dams.

Regarding claim 2, as illustrated in FIG 3, Dams' seal ring has a generally rectangular cross-section. Alternatively, the use of rectangular cross-sectioned o-rings was well known in the art and it would have been obvious to utilize such a seal ring with the reasonable expectation of successfully creating a similarly sealed interface.

Regarding claim 3, Dams teaches the groove and the seal ring to be positioned so that the seal ring is subjected to system pressure when the valve is in the closed position (in

the closed position of FIG 3, there exists a fluid connection between the seal and upstream portion 22).

Regarding claim 4, Dams teaches the groove and seal ring to be arranged and configured such that they partially extend into the opening cross-section of a similar connection bore (24"). Schultz discloses a radial connection bore (21) that connects with a flow gap (between elements 23 and 24).

Regarding claim 5, Schultz discloses the consumer connection (12) to be configured and arranged with a blind hole (20), and the radial bores (21) to be provided at the end side of the blind hole at the height of the flow gap.

Regarding claim 6, Dams teaches the groove in the inflow area of the system pressure fluid a beveled funnel-type partition (7") to the groove base (the axially extending wall of the groove), forming sort of a funnel opening.

Regarding claim 8, Dams teaches the groove wall (7') opposite the beveled partition (7") to be configured such that it provides radial fixation to (because of its depth), but to allow axial movement of (as seen in FIG 3), the seal ring.

Regarding claim 14, Dams teaches the seal ring to have sharp edges (8', also see the shape illustrated in FIG 3) in the area of the contact sealing surface (i.e., the interface with) the similar piston-like attachment (3).

25. Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over de Launay in view of Hulsey (US 3,497,177).

De Launay discloses the invention as claimed with exception to a salient at the groove base. Hulsey teaches that it was known in the art at the time of invention to use a salient (36) at the base of a similar seal groove to promote integrity of the seal interface. To increase the reliability of de Launay's seal, it would have been obvious to one of ordinary skill in the art at the time of invention to utilize a salient located at the groove base, as taught by Hulsey.

26. Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Shultz and Dams in view of Hulsey.

Schultz and Dams disclose the invention as claimed with exception to the salient and the groove base. See the obviousness analysis set forth in the preceding paragraph.

27. Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over de Launay in view of Weirich (US 4,313,463).

de Launay disclose the invention as claimed with exception to the spacer. Weirich teaches that it was known in the art of pressure relief valves at the time of invention to utilize a spacer (thrust disc 29) to influence a similar seal ring (28, see Abstract). To prevent premature wear of Launay's seal ring, it would have been obvious to one of ordinary skill in the art at the time of invention to use a spacer therewith, as taught by Weirich.

28. Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Shultz and Dams, in view of Weirich.

Schultz and Dams disclose the invention as claimed with exception to the spacer. See the obviousness analysis set forth in the preceding paragraph.

29. Claims 11 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over de Launay in view of Overbeke (US 2,655,173).

de Launay discloses the invention as claimed with exception to the rounded corner and beveled edge. Overbeke teaches that it was known in the art at the time of invention to use a rounded corner (34) between the top side of a similar connection nipple (19, 30) and attachment (25), and to utilize a beveled edge (31) in a similar movable closure / hat brim. To decrease the resistance to flow through de Launay's valve, it would have

been obvious to one of ordinary skill in the art at the time of invention to utilize a rounded corner and beveled edge, as taught by Overbeke.

30. Claims 11 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Schultz and Dams in view of Overbeke.

Schultz and Dams disclose the invention as claimed with exception to the rounded corner and beveled edge. See the obviousness analysis set forth in the preceding paragraph.

31. Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over de Launay.

de Launay discloses the invention as claimed with exception to the choice of material from which to make the seal ring. It would have been obvious to one having ordinary skill in the art at the time of invention to form the seal ring from polyamide, since it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice. *In re Leshin*, 125 USPQ 416.13.

32. Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over Schultz and Dams.

Schultz and Dams disclose the invention as claimed with exception to the choice of material from which to make the seal ring. See the rationale set forth in the preceding paragraph.

Conclusion

33. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to WILLIAM MCCALISTER whose telephone number is (571)270-1869. The examiner can normally be reached on Monday through Friday, 9-5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gregory Huson can be reached on 571-272-4887. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/WILLIAM MCCALISTER/
Examiner, Art Unit 3753

/John Rivell/
Primary Examiner, Art Unit 3753

WM
2/20/2009